UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<table>
<tr><td rowspan="2">Office Action Summary</td><td>Application No.
10/568,688</td><td>Applicant(s)
COVINO ET AL.</td><td></td></tr>
<tr><td>Examiner
HUA FAN</td><td>Art Unit
2456</td><td></td></tr>
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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 July 2010</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>37,39-49,52-54,56-66,69,70 and 72-76</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>37, 39-49, 52-54, 56-66, 69-70, and 72-76</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), filed on 7/22/2010 in this application after final rejection. Since this application

is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR

1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn

pursuant to 37 CFR 1.114. Applicant's submission filed on 7/22/2010 has been entered. Claims

37, 39-49, 52-54, 56-66, 69-70, and 72-76 are pending.

Response to Arguments

2.   Applicant's arguments regarding the 101 rejection have been fully considered but they are

not persuasive. See Examiner's response and suggestion in the corresponding rejection section.

3.   Applicant's arguments with respect to 112 and art rejections have been considered but are

moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new
> and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5.   Claims 37, 39-49, 52-53 and 72-73 are rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter as follows.

      1) Claims 37 and 72 recite "a computer-readable storage medium" and "a computer-

readable medium" respectively. However, the "computer-readable storage medium" and

"computer-readable medium" are not sufficiently disclosed by the specification to indicate

whether or not they comprise transitory media. As a matter of fact, such terms are not even

mentioned in the specification. Therefore the scopes of the terms cannot be determined as to

whether they comprise transitory media. For the sake of examination, the examiner uses broad

interpretation and presumes the claimed terms comprise both "non-transitory" and "transitory"

media. Since "transitory" media is not statutory, the 101 rejection is maintained. Applicant is

suggested to amend the claims to recite "**non-transitory** computer-readable medium," or

"computer readable storage **device**."

2) Claim 37 recites "a system **architecture**," which does not fall into any statutory

categories.

6.   Claims 75-76 are rejected under 35 U.S.C. 101 because the claimed invention is directed

to non-statutory subject matter as follows.

1) Claim 75 recites "a network including network equipment." Because "network

equipment" can be pure software, lacking any limitation or disclosure limiting the network

equipment to include hardware piece(s), the claimed "a network" does not fall into any statutory

category.

2) Claim 75 recites "a management system **architecture** according to any one of claims

37…." "a management system architecture" does not fall into any statutory category either.

Also see similar rejection to claim 37 above.

3) Claim 76 defines a "network management system". However, while the preamble

defines a "system", which would typically be indicative of an "apparatus", the body of the claim

lacks definite structure indicative of a physical apparatus. Therefore, the claim as a whole

appears to be nothing more than a "system" of software elements, therefore does not fall into any

statutory categories. Applicant is suggested to amend the claim to include a physical apparatus

such as a microprocessor or storage device as part of the claimed "system."

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

8.   Claims 37, 39-49, 52-54, 56-66, 69-70, and 72-76 are rejected under 35 U.S.C. 112, first

paragraph, as failing to comply with the written description requirement.

1) Claim 37 recites "a manager application configured to distribute said instruction

information from said database to at least one of said base layer and said support layer." This

limitation does not find support in the originally filed application. In light of the specification, at

page 16, last paragraph, the management application only **"manages the distribution** of

processes and the related information models of "layer 2" and "layer 3" from the MDB data base

to the various AAs and RPs…," it is not disclosed that the management application **actually**

distributes the processes and the related information models, or "instruction information" as

claimed. As a result, the latter recited limitation such as "wherein said layer are configured to

modify respective functions in response to **said instruction information**" is not supported

either. Also as are result, claim 52 is not supported either. All new matters must be deleted from

the claim(s). Other claims are similarly rejected.

9.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

10.   Claims 37, 39-49, 52-54, 56-66, 69-70, and 72-76 are rejected under 35 U.S.C. 112,

second paragraph, as being indefinite for failing to particularly point out and distinctly claim the

subject matter which applicant regards as the invention.

1) Claim 37 recites "associated control interfaces...a base layer for proxying said

interfaces and for decoupling said interfaces from management functions." The scope of

"decoupling said interfaces from management functions" is not clear because there appears to be

a conflict. As recited in the same claim, the interfaces are "control interfaces," control is a type

of management functions, therefore is not clear what the limitation means by "decoupling said

interfaces from management functions." Applicant is required to clarify. For the sake of the

examination, Examiner assumes this intended use does not limit the recited function. Other

claims are similarly rejected.

2) Claim 37 recites "a manager application configured to distribute said instruction

information from said database to at least one of said base layer and said support layer." It is not

clear regarding the scope of "instruction information" that is distributed by the manager

application, in light of the specification. The specification, at page 16, last paragraph, discloses

that the management application only "**manages the distribution** of processes and the related

information models of "layer 2" and "layer 3" from the MDB data base to the various AAs and

RPs...," it is not disclosed that the management application **actually distributes,**" and it is

therefore not clear what is "instruction information" that is distributed by the management

application. Since there is no disclosure indicating "instruction information" that is distributed

by the management application, its scope cannot be definitely determined. As a result, the latter

recited limitation such as "wherein said layer are configured to modify respective functions in

response to **said instruction information**" is indefinite as well. Applicant is required to clarify. For the sake of examination, Examiner interprets that the claimed "instruction information" as any type of information. Other claims are similarly rejected.

In addition, "in response to said instruction information" is not clear. For the sake of the examination, Examiner interprets as "according to said instruction information." Applicant is required to clarify. Other claims are similarly rejected.

3) Claim 37 recites "wherein, in response to said status information, said manager application modifies **the configuration of at least one among the base layer and the support layer**." It is not clear what "the configuration of at least one" refers to, whether it refers to the configuration of one entity contained in either base layer or the support layer, the configuration of the base layer or the support layer themselves, or other entities. Applicant is required to clarify. For the sake of the examination, Examiner interprets as the configuration of any entity. Other claims are similarly rejected.

4) Claim 37 recites "wherein said plurality of agents communicate information indicative of a status of said plurality of agents to said manager application." It is not clear regarding the scope of "said plurality of agents communicate a status of said plurality of agents" in light of specification, page 18, last paragraph. The specification discloses that the AA communicates its current load conditions to the MA, instead of "the plurality of agents communicate a status of said plurality of agents." Therefore the claimed limitation seems to be inconsistent with the specification. Applicant is required to clarify. For the sake of the examination, Examiner interprets as "any one or more of the plurality agents communicate information indicative of a

status of any one or more of the plurality of agents to said manager application." Other claims

are similarly rejected.

     5) Claim 40 recites "aligning said representation to the network of given network

equipment…performing all the management actions on said network..." It is not clear what is

"network of given network equipment" and "said network." Applicant is required to clarify. For

the sake of the examination, Examiner assumes "aligning said representation to the given

network equipment" and "said network equipment" respectively.

     6) Claim 45 recites "said agents in said community" which lacks sufficient antecedent

basis. Applicant is required to clarify. For the sake of the examination, Examiner assumes any

agents. Claim 62 is similarly rejected.

     7) Claim 53 recites "wherein the manager application is configured to manage

distribution of information models between said base layer and said support layer, said data base

being associated with the manager application." In light of specification, it is not clear how the

information models between said base layer and said support layer are distributed, and how the

management of such distribution is performed, without sufficient disclosure in the originally

filed application. Therefore the scope of this limitation cannot be definitely determined.

Applicant is required to clarify.

Claim Rejections - 35 USC § 103

11.   The text of those sections of Title 35, U.S. Code not included in this action can be found

in a prior Office action.

12.   Claims 37, 39-42, 44-49, 52-53, 72-73, and 75-76 are rejected under 35 U.S.C. 103(a) as

unpatentable over Harrop (US 7225250) in view of Burton (US 7209963).

        As to claim 37, Harrop discloses a system architecture resident on a computer- readable

storage medium for managing a communication network comprising network equipment, said

equipment having associated control interfaces, the architecture comprising:

        a base layer for proxying said interfaces and for decoupling said interfaces from

management functions (See 112 rejection and Examiner's interpretation above. See figure 4, the

bottom/basic layer consisting of the gateways and an Element sub-layer which comprises

element manager 230a (col. 11, lines 64-65)). The gateway has a sub-layer/sub-functionality as

an adaptor for adapting to various protocols (col. 12, lines 55-60) and a sub-layer/sub-

functionality comprised of the gateway's rule engine functionality (see col. 11, lines 6-21)

together with the element manager 230A's functionality (figure 5A)), said base layer comprising

distributed process executors to execute in a distributed manner processes concerning

management of said network (col. 12, lines 38-52, particularly "distributed gateways"), each

process executor comprising at least one of a workflow engine, a rule engine, and a combination

thereof (col. 11, lines 5-16, "rule engine." The flow of operations performed by each gateway in

connection with the rule is equivalent to a workflow engine. The Element Manager 230A is also

a distributed process executor (figure 4) that contains a rule engine (col. 13, lines 15-20, MIB

250 contains application rules section, while MIB 250 is part of the Element Manager 230A (col.

12, lines 6-10));

a support layer superposed to said base layer and comprising a plurality of agents

coordinating operation of said base layer in order to support distributed management

functionalities (figure 4, the network layer comprising a plurality of agents 230B. See col. 11,

lines 52-65, 230B supports the management functionalities that is distributed across the various

management layers);.

a database storing instruction information (col. 13, lines 15-52, MIB 250, storing

application rules, which is equivalent to instruction information. See col. 13, lines 25-29, a

common MIB 250 for the entire management process or system 230. See also col. 14, lines 25-

35, "MS Database 706"); and

a manager application configured to distribute said instruction information from said

database to at least one of said base layer and said support layer (see 112 rejection and

Examiner's interpretation above. See col. 15, lines 28-35, the application rules are distributed by

a central MS to gateways),

wherein said distributed management functionalities include FCAPS (Fault,

Configuration, Accounting, Performance, Security) functionalities (col. 11, lines 55-58),

wherein said plurality of agents are hosted on at least one machine (col. 11, lines 57-65),

wherein said layers are configured to perform respective functions based on said

instruction information (col. 15, lines 30-33, the user-defined rules "may be communicated to the

distributed gateways…such rules defines the types of status information to be obtained by

polling gateways" indicating that the gateways poll status information according to the

application rules),

wherein said layers are configured to modify respective functions in response to said

instruction information (see 112 rejection and Examiner's interpretation above. See col. 15, lines

30-33, the user-defined rules "may be communicated to the distributed gateways…such rules

defines the types of status information to be obtained by polling gateways" indicating that the

gateways modify the poll functions in response to said application rules defined by the user),

Harrop does not expressly disclose said plurality of agents communicate information

indicative of a status of said plurality of agents to said manager application, and wherein, in

response to said status information, said manager application modifies the configuration of at

least one among the base layer and the support layer.

Burton discloses a plurality of agents communicate information indicative of a status of

said plurality of agents to the manager application (see 112 rejection and Examiner's

interpretation above. See col. 8, lines 25-35, the SWD, as a part of TMR server (see col. 8, lines

10-16), checks to see which TMR components are installed on a particular managed node. The

TMR server is equivalent to a management applicant and the managed node is equivalent to a

support-layer, or a 2nd layer, agent that managed endpoints (see figure 2 and col. 5, lines 6-18).

The information regarding "which TMR components are installed on a particular managed node"

is information indicative of a status of the agent, i.e., the managed nodes. It is a design choice

that checking installed components on a node is done by polling the node, so that the current

installation status can be found. Such polling involves a communication by the node. Note, it is

not required by the claimed limitation that the agent initiates the communication of such status),

and wherein, in response to said status information, said manager application modifies the

configuration of at least one among a base layer and a support layer (see 112 rejection and

Examiner's interpretation above. See Burton, col. 8, lines 26-30).

At the time of invention, it would have been obvious to a person of ordinary skilled in the

art to combine the teachings disclosed by Harrop, with the concept disclosed by Burton

regarding a plurality of agents communicate information indicative of a status of said plurality of

agents to the manager application, and in response to said status information, said manager

application modifies the configuration of at least one among a base layer and a support layer.

The suggestion/motivation of the combination would have been to configure the process on the

managed node so that appropriate health check modules on the managed node can be enabled to

monitor and report errors of corresponding component of resident on the managed node (Burton,

col. 8, lines 28-33).

As to claim 39, Harrop-Burton discloses the architecture of claim 37, wherein said base

layer comprises: a sub-layer of protocol adapters for interfacing a set of network equipment

offering a given protocol (Harrop, col. 12, lines 39-67, particularly lines 55-60); and a sub-layer

of resource proxy modules each said proxy module involving providing a representation of the

configuration of given network equipment according to a defined information model (see

explanation in rejection to claim 37 above for the sub-layers. The rule engine functionality of

the gateway and the EM 230A are equivalent to a sub-layer of resource proxy. See Harrop, col.

12, lines 7-col. 11, lines 6-21, the MIB 250 as part of the EM 230A provides a representation of

the SNMP configuration of the given network equipment, see col. 13, lines 29-31. Also see col.

13, lines 60 to col. 14, line 11).

As to claim 40, Harrop-Burton discloses the architecture of claim 39, wherein said resource proxy modules are configured for aligning said representation to the network of given network equipment (see 112 rejection above) by at least one operation selected from the group of:

performing all the management actions on said network by invoking operation through at least one associate protocol adapter (Harrop, col. 10, lines 60-67 and col. 11, lines 6-21), receiving at said resource proxy modules all the notifications sent by said network equipment (Harrop, col. 10, lines 60-67 and col. 11, lines 6-21); and performing a periodical verification of alignment between the representation of the network equipment and said network equipment.

As to claim 41, Harrop-Burton discloses the architecture of claim 40, wherein said resource proxy modules are configured for enrichment with element manager information (Harrop, figure 4, element manager 230A. See explanation in rejection to claims 37 and 39 for the resource proxy comprising element manager functionality).

As to claim 42, Harrop-Burton discloses the architecture of claim 40, wherein said resource proxy modules are configured for running processes using said process executor (Harrop, col. 12, lines 38-52, particularly "distributed gateways." See explanations in rejection to claims 37 and 39 that the resource proxy includes the rule engine functionality of the gateways, and also EM 230A functionality in a distributed manner).

As to claim 44, Harrop-Burton discloses the architecture of claim 37, wherein said agents in said community are configured for running vendor and technology independent services (Harrop, col. 11, lines 6-21, the gateway translates vendor-specific commands/messages, and therefore the agents 230B's service is vendor impendent).

As to claim 45, Harrop-Burton discloses the architecture of claim 37, comprising at least one manager application (see similar rejection to claim 37. See Harrop, figure 4, "230C" and "230D" also, col. 14, lines 22-50, "MS 704") configured for performing functions **selected** from the group of:

managing distribution of processes between said base layer and said support layer;

managing distribution of information models between said base layer and said support layer;

monitoring the state of the architecture on the basis of information provided by said agents in said community (Harrop, col. 11, lines 24-32);

interacting with external systems (Harrop, col. 14, lines col. 15, lines 27-31, "user defined" indicates a UI system); and

executing management processes (Harrop, col. 14, lines 60-67).

As to claim 46, Harrop-Burton discloses the architecture of claim 45, wherein said at least one manager application comprises a separated, additional upper layer in said architecture (Harrop, figure 4, business layer and service layer and figure 7, MS layer).

As to claim 47, Harrop-Burton discloses the architecture of claim 45, wherein said at least one manager application is at least partly integrated to said support layer (Harrop, figure 4 and col. 11, lines 60-53, 230C and 230D, the manager application layer may not be physically distinct from 230B, the agent layer).

As to claim 48, Harrop-Burton discloses the architecture of claim 37, wherein all said layers in said architecture include process executors (Harrop, col. 11, lines 53-65).

As to claim 49, Harrop-Burton discloses the architecture of claim 48, wherein each of said process executors in each of said layers comprises at least one of a workflow, a rule engine and a combination thereof (Harrop, col. 12, lines 15-20, each MIB 250 contains application rules section; col. 13, lines 24-26, a separate MIB for each management layer. See col. 11, lines 6-21 that gateways also include a rule engine).

As to claim 52, Harrop-Burton discloses the architecture of claim 37, wherein said instruction information comprises at least one of:

process definitions comprising at least one of workflows and rules; and data model definitions (Harrop, see rejection to claim 37, the user defined rules are process defintions comprising rules).

As to claim 53, Harrop-Burton discloses the architecture of claim 37, wherein the manager application is configured to manage distribution of information models between said base layer and said support layer, said data base being associated with the manager application (Harrop, col. 15, lines 28-33, the user-defined rules are distributed by the MS to gateways, the rules defining the type of status information to be obtained by polling gateways. Therefore the information models distributed between the gateway and upper layers are managed by such rule, distributed by the management application MS. Note, the status information can be those distributed/passed from gateways to support layer, NM 230B, see figure 4 and col. 11, lines 6-21).

As to claim 73, Harrop-Burton discloses the architecture of claim 39, wherein said resource proxy modules can support FCAPS (Fault, Configuration, Accounting, Performance, Security) functionality (Harrop, col. 11, lines 52-65).

As to claim 75, Harrop-Burton discloses a system comprising: a network including

network equipment, and a management system architecture according to any one of claims 37,

39-42, 44-49, 52, 53, and 73 for managing said network (see similar rejection to claims 37, 39-

42, 44-49, 52, 53, and 73).

As to claim 76, Harrop-Burton discloses a network management system for managing a

communication network comprising network equipment, said equipment having associated

control interfaces, the network management system comprising:

a base layer for proxying said interfaces and for decoupling said interfaces from

management functions, said base layer comprising distributed process executors to execute in a

distributed manner processes concerning management of said network, each process executor

comprising at least one of a workflow engine, a rule engine, and a combination thereof (see

similar rejection to claim 37);

a support layer superposed to said base layer and comprising a plurality of agents

coordinating operation of said base layer in order to support distributed management

functionalities (see similar rejection to claim 37);

a database storing instruction information (see similar rejection to claim 37); and

a manager application configured to distribute said instruction information from said

database to at least one of said base layer and said support layer (see similar rejection to claim

37),

wherein said distributed management functionalities include FCAPS (Fault,

Configuration, Accounting, Performance, Security) functionalities (see similar rejection to claim

37),

wherein said plurality of agents are hosted on at least one machine (see similar rejection to claim 37),

wherein said layers are configured to perform respective functions based on said instruction information (see similar rejection to claim 37),

wherein said layers are configured to modify respective functions in response to said instruction information (see similar rejection to claim 37),

wherein said plurality of agents communicate information indicative of a status of said plurality of agents to said manager application (see similar rejection to claim 37), and

wherein, in response to said status information, said manager application modifies the configuration of at least one among the base layer and the support layer (see similar rejection to claim 37).

As to claim 72, Harrop-Burton discloses a computer program product resident on a computer-readable medium for storing instructions for execution by a processor, the instructions when executed by a processor performing a method of managing a communication network comprising network equipment, said equipment having associated control interfaces, the method comprising:

providing a base layer proxying said interfaces and decoupling said interfaces from management functions (see similar rejection to claim 37);

executing, in said base layer, distributed processes concerning management of said network, each of said processes comprising at least one of workflows, rules, and a combination thereof (see similar rejection to claim 37);

supporting distributed management functionalities via a support layer superposed to said base layer and comprising a plurality of agents coordinating operation of said base layer (see similar rejection to claim 37);

providing a database for storing said instruction information for each of said layers (see similar rejection to claim 54 below);

distributing said instruction information from said database to each respective layer (see similar rejection to claim 54 below);

receiving instruction information in each of said layers; performing in each of said layers, functions based on said instruction information (see similar rejection to claim 54 below);

receiving information indicative of a status of said support layer (see similar rejection to claim 37); and

modifying at least one among said base layer and support layer in response to said status information (see similar rejection to claim 37).

13.   Claims 54, 56-59, 61-66, 69-70, and 74 are rejected under 35 U.S.C. 103(a) as unpatentable over Harrop in view of Burton, as applied to claim 37 above, and further in view of Rostron (US 2004/0001449).

As to claim 54, Harrop-Burton discloses a method of managing a communication network comprising network equipment, said equipment having associated control interfaces, the method comprising the steps of:

providing a base layer proxying said interfaces and decoupling said interfaces from management functions (see similar rejection to claim 37);

executing, in said base layer, distributed processes concerning management of said

network, each of said processes comprising at least one of workflows, rules, and combination

thereof (see similar rejection to claim 37);

supporting distributed management functionalities via a support layer superposed to said

base layer and comprising a plurality of agents coordinating operation of said base layer (see

similar rejection to claim 37);

including FCAPS (Fault, Configuration, Accounting, Performance, Security)

functionalities as said distributed management functionalities (see similar rejection to claim 37);

hosting at least part of said agents on different machines (Harrop, col. 11, lines 58-62, the

individual processors 230A, etc may be physically as well as conceptually distinct from one

another. Also, each processor (230A) can be viewed as a different machine from another

processor 230A (see figure 4) because the claimed "machine" is not further limited to any

specific type);

performing in each of said layers, functions based on instruction information (see similar

rejection to claim 37. Also see Harrop, col. 13, lines 20-35, each layer has a MIB; col. 12, lines

7-20, each MIB 250 contains an application rule section 254);

providing a database for storing said instruction information for each of said layers (see

similar rejection to claim 37. Also see Harrop, col. 13, lines 20-30, "a common MIB" for all

layers, or one MIB for each layer; col. 14, lines 18-22, "These application rules may be common

for the management processors in each of the management layers.");

distributing said instruction information from said database to each respective layer

(Harrop, col. 15, lines 26-35, the user-defined rules are distributed by the MS to the distributed

gateways. col. 14, lines 18-22, "These application rules may be common for the management

processors in each of the management layers." Therefore, for a system as disclosed in figure 4,

other layers receives the same user-defined rules as well);

modifying at least one of the distributed processes based on said instruction information,

such that a function of the at least one distributed process is changed (see similar rejection to

claim 37);

providing a manager application configured for distributing said instruction information

from said database to at least one of said base layer and said support layer (see similar rejection

to claim 37);

providing information indicative of a status of said support layer to said manager

application (see similar rejection to claim 37); and

modifying the configuration at least one among said base layer and said support layer in

response to said status information (see similar rejection to claim 37).

However, Harrop-Burton does not expressly disclose moving said agents among different

machines. Rostron et al discloses moving agents among different machines ([0004]-[0005], the

primary routine running on a primary node is equivalent to an agent. The agent is effectively

moved to the backup node, a different machine, when the backup node assumes the rule of the

primary node).

At the time of invention, it would have been obvious to a person of ordinary skilled in the

art to combine the teachings disclosed by Harrop-Burton, with the teachings disclosed by

Rostron regarding moving agents among different machines. The suggestion/motivation of the

combination would have been to provide fault tolerance (Rostron, [0005]-[0006]).

As to claim 56, Harrop-Burton-Rostron discloses the method of claim 54, further comprising the steps of:

providing a sub-layer of protocol adapters for interfacing a set of network equipment offering a given protocol (see similar rejection to claim 39); and

providing a sub-layer of resource proxy modules, each said proxy module providing a representation of the configuration of given network equipment according to a defined information model (see similar rejection to claim 39).

As to claim 57, Harrop-Burton-Rostron discloses the method of claim 56, further comprising the step of configuring said resource proxy modules for aligning said representation to the network of a given network equipment by at least one operation selected from the group of: performing all the management actions of said network by invoking operation through at least one associated protocol adapter; receiving at said resource proxy modules all the notifications sent by said network equipment ; and performing a periodical verification of alignment between the representation of the network equipment and said network equipment (see similar rejection to claim 40).

As to claim 58, Harrop-Burton-Rostron discloses the method of claim 57, further comprising the step of configuring said resource proxy modules for enrichment with element manager information (see similar rejection to claim 41).

As to claim 59, Harrop-Burton-Rostron discloses the method of claim 56, further comprising the step of configuring said resource proxy modules for running processes using a process executor (see similar rejection to claim 42).

As to claim 61, Harrop-Burton-Rostron discloses the method of claim 54, further comprising the step of configuring said agents in said community for running vendor and the technology independent services (see similar rejection to claim 44).

As to claim 62, Harrop-Burton-Rostron discloses the method of claim 54, wherein the step of providing a manager application further comprises performing steps selected from the group of:

managing distribution of processes between said base layer and said support layer;

managing distribution of information models between said base layer and said support layer;

monitoring the state of said layers on the basis of information provided by said agents in said community;

interacting with external systems; and

executing management processes (see similar rejection to claim 45).

As to claim 63, Harrop-Burton-Rostron discloses the method of claim 62, further comprising the step of configuring said manager application as a separated upper layer in addition to said base proxying layer and said support layer (see similar rejection to claim 46).

As to claim 64, Harrop-Burton-Rostron discloses the method of claim 62, further comprising the step of at least partly integrating to said support layer said manager application (see similar rejection to claim 47).

As to claim 65, Harrop-Burton-Rostron discloses the method of claim 54, further comprising the step of providing process executors in all said layers (see similar rejection to claim 48).

As to claim 66, Harrop-Burton-Rostron discloses the method of claim 65, further

comprising the step of providing in said process executors at least one of a workflow engine, a

rule engine, and combinations thereof (see similar rejection to claim 49).

As to claim 69, Harrop-Burton-Rostron discloses the method of claim 54, further

comprising the step of providing in said instruction information at least one of: process

definitions comprising at least one of workflows and rules, and data model definitions (see

similar rejection to claim 52).

As to claim 70, Harrop-Burton-Rostron discloses the method of claim 54, further

comprising the steps of: providing said manager application configured for managing

distribution of information models between said base layer and said support layer; and

associating said database with said manager application (see similar rejection to claim 53).

As to claim 74, Harrop-Burton-Rostron discloses the method of claim 54, further

comprising supporting FCAPS (Fault, Configuration, Accounting, Performance, Security)

functionalities via said resource proxy modules (see similar rejection to claim 73).

14.   Claims 43 and 75 are rejected under 35 U.S.C. 103(a) as unpatentable over Harrop in

view of Burton, as applied to claim 40 above, and further in view of Fee (US 5522042).

As to claim 43, Harrop-Burton disclose the claimed invention substantially as discussed

in claim 40, but does not expressly disclose that said resource proxy modules are configured for

interacting directly with one another in an interworking relationship. Fee discloses resource

proxy modules configured for interacting directly with one another in an interworking

relationship (abstract, chassis modules are configured for interacting directing with one another by transmits the discovered information to other modules).

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to combine the teachings disclosed by Harrop-Burton, with the concept disclosed by Fee regarding resource proxy modules configured for interacting directly with one another in an interworking relationship. The suggestion/motivation of the combination would have been to maintain a distributed MIB to enable the chassis to be managed as a whole while the management functions are distributed across the system, and therefore support a system that is both fault tolerant and enables ready expansion and modification of the management applications (Fee, abstract).

As to claim 75, Harrop-Burton-Fee discloses a system comprising: a network including network equipment, and a management system architecture according to any one of claim 43 for managing said network (see similar rejection to claim 43).

15.   Claim 60 is rejected under 35 U.S.C. 103(a) as unpatentable over Harrop in view of Burton and Rostron, as applied to claim 56 above, and further in view of Fee (US 5522042).

As to claim 60, see similar rejection to claim 43.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUA FAN whose telephone number is (571)270-5311. The examiner can normally be reached on M-F 9am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

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like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hua Fan/
Examiner, Art Unit 2456